ENVIRONMENTAL ASSESSMENT

The Soil Washing Technology Research Initiative

At Picatinny Arsenal

April 2002

1. FINDING OF NO SIGNIFICANT IMPACT (FNSI)

2. **DESCRIPTION OF PROPOSED CONTRACT:** The purpose of this project is to demonstrate soil washing technology to remove lead from lead contaminated firing range soil. The soil to be used for this demonstration is from the 100 meter and 300 meter indoor firing ranges of the Armament Technology Facility (ATF), which is to be replenished with purchased clean soil.

3. DISCUSSION OF ANTICIPATED ENVIRONMENTAL EFFECTS:

- a. An environmental assessment was prepared regarding this soil washing technology and resulted in this FNSI.
- b. There will be residual hazardous waste generated during processing from the soil washing equipment located at building 3150 which will be disposed of in accordance with applicable Federal, State and Local RCRA regulations.
- c. There will be minimal wastewater generated during the soil washing process at building 3150 since the process is "closed-loop", i.e. all process water will be contained within the watertight treatment equipment.
- d. Potential of a soil spill is negligible since the ATF range soil is containerized in twelve separated dumpsters. The dumpsters will be double lined with a plastic liner, tightly covered, and will be inspected daily.
- **4. CONCLUSIONS:** Based on the environmental assessment for implementation of the soil washing technology research project for the Armament Testing Facility (ATF) soils, the following conclusions have been determined for the proposed action:
 - a. It is not a major Federal action significantly affecting the quality of the human environment.
 - b. This range soil removal and soil washing technology demonstration project will not significantly impact the environment. Any waste generated from this operation will be minimized and disposed of according to the applicable Federal, State and Local environmental laws and regulations.
 - c. It is not likely to be environmentally controversial.
 - d. It does not require an Environmental Impact Statement.

5. POINT OF CONTACT:

U. S. Army TACOM-ARDEC External Affairs Office ATTN: Mr. Peter Rowland, AMSTA-AR-AO Building 1 Picatinny Arsenal, NJ 07806-5000

1.0 THE PURPOSE OF AND NEED FOR ACTION:

There is a need to replace the existing sands in both 100 meter and 300 meter ranges in the Armament Technology Facility (ATF), Picatinny Arsenal, NJ. The existing range impact berm soil is pulverized causing dust clouds to form downrange during shooting activity, adding to fallout area of lead and silica dust contamination, and reducing visibility downrange. Additionally, projectiles in the target area of the berm soil are numerous and contribute to the ricochet of fired rounds from the impact area towards the firing line. Personnel from TACOM-ARDEC's RangeSafe Technology Demonstration Initiative (RTDI) are teaming with ATF personnel to perform a soil washing technology demonstration to segregate lead and other heavy metals from the soil so that the recovered lead may be recycled and the clean soil may be reused at the ATF at a future time.

1.1 Picatinny Arsenal's Mission

Picatinny Arsenal serves as the headquarters for the U.S. Army Armament Research, Development and Engineering Center (ARDEC), a subordinate element of the U.S. Army Tankautomotive and Armaments Command (TACOM). The mission of TACOM-ARDEC is to provide research, product development and full life cycle engineering for ammunition, weapons, sophisticated fire control ("targeting") technology, and explosives and propellants. This is accomplished through exploring advanced technologies, designing new products, procuring demonstration quantities, supporting the manufacturers with product and manufacturing knowhow, trouble-shooting user problems in the field and supporting demilitarization (disposal).

1.2 ATF's Mission

TACOM-ARDEC's ATF is a multi-faceted facility providing hands-on capabilities for a variety of light armament investigations including: ballistic range investigations, simulation and modeling, and light armament engineering and materiel acquisition services. The mission of the ATF is to provide customers with world class weapon evaluation services through a state of the art facility and sound life cycle management practices that address safety, environmental and industrial hygiene issues systemic to indoor firing ranges.

2.0 ALTERNATIVE CONSIDERED INCLUDING THE PROPOSED ACTION:

- 2.1 Three alternatives are considered in this assessment. The first is the no action, "no project" alternative in which the range soil will not be removed from the two ranges. This alternative is not acceptable since the health and safety issues will continue to exist in the ATF, and become worse as time passes. The health and safety concerns will eventually put personnel at imminent risk of sickness and/or injury and prevent the ATF from completing work at those ranges, which will jeopardize the ATF's ability to accomplish its mission.
- 2.2 The second alternative is the proposed action where sand from the 100 and 300 meter ranges will be moved to building 3150 for use in the Soil Washing Technology Research Initiative demonstration. The staging of the soil washing equipment in and around building 3150 will require no structural changes or permanent construction to building 3150. Upon completion of the demonstration, soil which is cleaned by the demonstration may be reused in the ATF ranges. Once the soil washing technology has been evaluated and the most cost effective and efficient

method for cleaning ATF soil is identified, scheduled maintenance cleaning of ATF range soil may be implemented in the future.

- 2.3 A third alternative requires renovation and/or structural changes to building 63 and/or 67 to accommodate the operation. This will be considered only if it is not feasible to use building 3150. This alternative will cost time and resources. Buildings 63 and 67 are operated by another internal organization and may need to be transferred to WECAC. The soil washing processes of the second and third alternatives are identical.
- 2.4 Within the scope of this technology evaluation, special precaution will be made regarding all environmental aspects including air, water, and hazardous waste disposal. There will be no other effects on wetland, floodplain, archeological, and endangered species issues; since the work in this scope is confined to Building 3150 and its adjacent parking and storage areas. The soil washing plant will be located on a concrete floor under shelter so that it is isolated from the environment. It is anticipated that residual heavy metals contaminated soil and wash water will be generated during this operation. This wastewater will be stored in a temporary storage tank (up to 5,000 gallons) at Building 3150. The storage area will be equipped with a secondary containment system of sufficient capacity to capture any spills or accidental discharges from the soil washing plant. After thorough analysis and evaluation of treatment methods, it is anticipated that this wastewater will be treated within the confines of the contained soil washing treatment pad area and the cleaned water will be discharged to a local POTW, in accordance with state and federal environmental regulations. The proposed method of treatment for the water will be active iron filtration.
- 2.5 Based on the above assessment, execution of the proposed action represents the superior alternative, since it is better for both the environment and for the health and safety of ATF personnel.

Description of the proposed action:

2.6 Treatment Requirements

For the purpose of this environmental assessment, the New Jersey Department of Environmental Protection Non-residential Direct Contact Soil Cleanup Criteria (NDCSCC) of 600 mg/kg will be used as the basis for conceptual design.

2.7 Proposed Treatment Method

The method deemed most appropriate for this remediation involves a "soil washing" approach that would involve the following phases.

2.7.1 Metal Fragment Removal

The majority of the soil removed from the ATF Building was screened on either a 3/8-in. by 4-in. slotted screen or a US standard 3/8-in. screen to remove potential incendiary 50-cal. and 40-mm unexploded energetics. The screened material however still contains metal fragments larger than the US standard #10 sieve. These fragments must be removed in order to treat the soil finer than the #10 sieve for lead removal. It is currently anticipated that the removal of these

fragments will be accomplished by first placing the soil (in its moist-dry state of removal) into a sealed tank containing water and creating a slurry having about 15% solids by volume. A pump would be located within the tank that would be used to pump the slurry to a separation plant. When the slurry enters the separation plant, it will first pass over a #10 scalping screen that will remove the metal fragments and any other material larger than the #10 screen. The finer soil contained within the slurry will then pass into a sump located beneath the scalping screen.

2.7.2 Soil Separation

The slurry will then be pumped to a hydrocyclone system. The discharge orifice and supply pressure will be established such that material coarser than the particle size selected for lead removal (likely the #200 sieve) will pass through the orifice located at the bottom of the hydrocyclone. The finer soil fraction will continue to a sedimentation tank where the solids will fall from suspension and the free water will be recycled to the slurry sealed tank for reuse in the scalping process.

2.7.3 Lead Removal

The soil that will undergo lead removal (+#200 sieve to -#10 sieve) will collect in a sump beneath the hydrocyclone system from which it will be pumped to the lead removal system. It is anticipated that a pair of mineral spirals (7 turns each) will be used for this process. If so, the soil will be split into two fractions using a hydrosizer at a cut point to be determined, but likely about #40 sieve and the two fractions will be treated separately by the two spirals. The condition of the soil to be treated will be a slurry having about the same solids (15%) content as was used for the metal fragment removal.

In using the spirals to remove the lead, the slurry is pumped to the top of the spiral device and allowed to follow along the helix. The soil, having a lower specific gravity than the lead, will travel along the interior edge of the helix and be deposited in a pile at the base of the spiral. The lead will travel along the out edge of the helix and be deposited in a separate pile. Water will be collected in a sump at the bottom of the helix and will be pumped back into the separation process for resuse.

2.7.4 Lead/Soil Disposition

During the course of the separation process, piles of lead will be collected and placed in sealed containers and sent offsite to recycling facilities. All soil will be collected and placed in separate holding containers until test results verify that cleanup standards have been achieved. If determined to be clean, the soil may beneficially reused within Picatinny Arsenal.

2.7.5 Disposal of Untreatable Soil and Process Wastewater

Soil that is too fine for treatment will be collected in the sedimentation tanks. This material will then be treated to satisfy land disposal requirements and transported off-site for final disposition. All water collected used during the lead removal process will be held and tested to determine what if any treatment will be required for disposal. If soluble lead levels are not present, particulate filtration may be sufficient to achieve disposal requirements. Disposal options to be considered would be discharge to the Picatinny Arsenal sewage treatment system after necessary

authorization and permitting were accomplished. The Government is seeking an exemption from the Rockaway Valley Regional Sewerage Authority Federal facilities Sewer Connection Permit which prohibits "point discharges from any pollution remediation and/or treatment system, including the treatment of contaminated ground water or surface water...". The rationale for exemption is that this project is a small scale demonstration performing a one-time only cleaning of a specific limited quantity of soil. The system is closed loop and all the wash water will be accounted for and analyzed before disposal. This is not an ongoing remediation activity.

3.0 EXISTING ENVIRONMENT

3.1 Geographic Setting

Picatinny Arsenal occupies 6,491 acres of improved and unimproved land four miles northwest of the city of Dover in Rockaway Township in Morris County, New Jersey, 35 miles (by road) northwest of Newark.

It is popular recreation area because of the numerous small lakes and mountains in the region. As a result, the area surrounding the arsenal is the most densely populated in Morris County. Many small surrounding the arsenal is the immediate vicinity of the arsenal including Wharton, three miles to the south (population 5,560); Dover, four miles to the south (population 14,400); Denville, six miles to the southeast (population 14, 210); Boonton, eight miles to the northeast (population 8,290); and Morristown, fifteen miles to the southeast (population 16,760). All distances were taken directly from the installation Assessment of Picatinny Arsenal 1975; Installation Assessment of Picatinny, 1976).

The site of the proposed action is the ATF. This area is developed and the action will not involve construction of any type. This activity is consistent with the present land use as it will be part of an ongoing operation. The soil will be removed from the ATF and then transported to Building 3150. After cleansing, it is anticipated that the soil will then be returned to the ATF for reuse.

3.2 Physical Environment

Picatinny Arsenal is situated in a long valley oriented northeast to southwest. The valley ranges from 700 feet mean sea level (msl). It is bounded on the west by a steeply rising ridge formed by Green Pond and Copperas Mountains, and on the east by a more gradually sloped of plateau. The western ridge reaches 1,200 feet msl; the eastern ridge reaches slightly over 1,100 feet msl.

The ridges are part of the New Jersey Highlands, which are part of the Appalachian Chain. The arsenal is typical of these highlands, which are characterized by ridges separated by deep, narrow valleys with a northeast to southwest axis (stone and Webster, 1988; Kugler, 1975).

Two prominent water features, Picatinny Lake (108 acres) and Lake Denmark (174 acres), occupy the central and Northeast portions of the valley. Other watercourses include Bear Swamp Creek, Burnt Meadow Brook, Green Pond Brook, and several smaller streams (mostly tributaries), ponds and impoundment. Most surface waters are part of the Lake Denmark/Picatinny Lake watershed, which drains through Green Pond Brook into Rockaway River. (Kugler, 1975; Wingfield, 1976). The exception includes headwaters of Snake Hill

Brook, which flows northwest into Lake Ames. The Rockaway River eventually flows into the Jersey City Reservoir (Kugler, 1975).

The southern part of the valley is occupied by extensive floodplain wetlands that have been altered by past drainage activities. (Stone and Webster, 1988; Wingfield, 1976; Kugler, 1975). There is also a large floodplain wetland north of Lake Denmark. Otherwise, the floodplain is largely restricted to the shorelines of the lakes and within the channel banks of streams (Stone and Webster, 1988).

Bedrock strata underlying the valley consist of Byran and Losee gneiss, Hardystone quartzite, Kittatinny limestone and Green Pond conglomerate. Glacial deposits, in the form of a terminal moraine at the southern end of the valley, and stratified drift deposits of varying thickness in other areas of the valley, overlay bedrock. Glacial deposits are absent from the mountain slopes (Wingfield, 1976).

Soils are largely derived from the glacial deposits. The Soil Conservation Service has mapped 18 separate soil units, consisting of varying combinations of loam, silts, sands, clays and gravel's, with some bedrock outcrops. Wetlands are characterized by considerable muck and peat, with traces of mineral matter (Wingfield, 1976).

The average annual rainfall in this part of New Jersey is 50 + inches, while average annual snowfall is 44 inches. Record temperatures include a low of - 20-degree F (1934) and a high of 100-degree F (1936) (Kugler, 1975).

Land uses within the arsenal include 571 acres of buildings with surrounding grounds, 1, 497 acres of managed areas, 308 acres of lakes and reservoirs, 322 acres of wetland, and 3,793 acres of upland forest (Stone and Webster, 1988).

The topography of the Arsenal is conducted to the formation of stable, groundbased, atmospheric inversion layers within the confines of the valley. These inversions occur at night and early morning, throughout the summer and into early autumn, but will break up as the sun warms the air or in response to stronger winds. The inversions, while present, trap air pollutants. Generally, however, the arsenal is designated as an "attainment" or "unclassified" area for all air pollutants except ozone (40 Code of Federal Regulations (CFR) Part 881.331). The valley walls tend to modify regional meteorological conditions by channeling winds under weak to moderate wind speeds (Stone and Webster, 1988).

3.3 Biological Resources

3.3.1 Vegetation

3.3.2 The habitats on Picatinny Arsenal include unimproved areas consisting of old fields and forests in all stages of succession (69.9% of total cover), open water wetlands (7.4%), shrubswamp wetlands (5.4%), forest swamp wetlands (2.7%), semi-improved areas where the vegetation is cut annually (4.2%), and improved lawns that are cut bi-weekly (5.0%). Developed land including buildings and pavement occupies 5.3% of the total acreage, primarily in the valleys onsite. Owing to the low species abundance and diversity of these areas, developed areas will not be discussed further.

The native forest on the Arsenal includes approximately 70 % mixed oak trees [e.g., black oak (Quercus Velutina), (red ok (Quercus rubra), and pin oak (Quercus plustris)]. Generally, mixed oak stands are found on the ridges, stunted chestnut oak (Quercus prinus) is found on the drier ridgetops, and red maple (Acer rubrum) is found in the moister valleys. There are also stands of hemlock (Tsuqa canadensis), gray birch (Betulla populifolia), and bigtooth aspen (Populus grandidentata) onsite.

The wetlands on the Arsenal range from open water marsh areas to forested swamps. The former Picatinny Arsenal Wildlife Biologist, Robert Parris, performed a wetland evaluation (Wetland Evaluation Technique, U.S. Army Corps of Engineers, 1987) on the Lake Denmark complex, the largest wetlands in the arsenal, and found it had predominantly high and moderate values for wetland functions, such s altering floodflow, providing habitats for wildlife, and toxicant removal.

Overall, there is a wide variety of vegetation found on the Arsenal, ranging from bogs complete with pitcher plants (Sarraacemin spp.) and sundew (Drosera spp.) to dry areas on the ridgetop with chestnut oaks.

3.3.3 Fauna

Picatinny Arsenal contains diverse and abundant fauna.

3.3.3.1 Mammals

Species observed at the Arsenal range from ubiquitous species, such as gray squirrels and cottontails, to species that are infrequently seen in the northeast, such as black bear and bobcat.

Hunting and trapping occur onsite, but are limited to Arsenal personnel. Mammals hunted or trapped include deer, raccoons, beaver, mink, red and gray foxes, river otters, muskrats, skunks, opossums, and cottontails.

3.3.3.2 Birds

Approximately 175 bird species have been observed on the Arsenal. This indicates that the Arsenal provides a range of habitats for many species, from wetlands to forest species. Over one third of the species observed onsite are believed to be breeding at the Arsenal.

3.3.3.3 Reptiles and Amphibians

The Arsenal provides habitat for many species of reptiles and amphibians including endangered species, such as the timber rattlesnake and bog turtle. As expected, the distribution of amphibians is concentrated in aquatic areas such as Lake Denmark, Picatinny Lake, and G2 pond.

3.3.3.4 Fish

Fish are found in both moving water (brooks) and ponds on the Picatinny Arsenal site. Fishing is open to the same groups of individuals as hunting. Common fish caught include black crappies, Chubb suckers, golden shiners, sunfish, and bullheads.

3.4 Protected/Endangered Species

According to the Integrated Natural Resource Management Plan of Picatinny Arsenal, the Indiana Bat has been identified as occurring on Picatinny Arsenal. They utilize the stream areas for foraging and loose-barked trees for roosting. (J. Van de Venter, INRMP, Picatinny Arsenal)

The natural resources at Picatinny Arsenal have been inventoried and documented in the INRMP.

3.5 Historic/Archeological Resources

The cultural resources at Picatinny Arsenal have been documented in the INRMP, which is updated every 5 years. Buildings 63, 67 and 3150 have no historical significance.

There are no known historic/archeological resources that will be impacted by the proposed action.

3.6 Groundwater

For the most part, the bedrock strata underlying the Arsenal have tight fractures, low storage capacity, and low permeability, resulting in low groundwater yields. The exception is the Kittatinny limestone, which has sufficient solution cavities to carry enough water for siting wells.

Hydraulic conductivity varies greatly, with wells in proximity to each other having different yields (Wingfield, 1976).

Reference sources indicate the presence of two aquifers in the unconsolidated surface deposits varying in thickness up to 120 feet where present. A confining layer of clay separates the two strata (Wingfield, 1976).

In the valley portion of the Arsenal, groundwater levels range from 3.9 to 8.2 feet below the ground surface, with movement generally toward the southwest (Wingfield, 1976). Along the hillsides, the depth to the ground water is generally deeper.

Preliminary remedial investigation and site feasibility studies for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) have been conducted on entire Picatinny Arsenal (Phase I, II, and III). The most serious is a plume of volatile organic carbon compounds (VOCs), chiefly trichloroethylene (TCE) from the are of building 24, formerly the site of plating operations. There is a less seriously contaminated plume in the vicinity of Building 95, the site of etching operations. Currently, the Environmental Office is preparing a document to summarize the groundwater condition for the entire Arsenal.

3.7 Hazardous Waste

A number of the Arsenal's operations involve handing hazardous and toxic materials and result in the generation of hazardous wastes. Also, outdoor field testing of weapons and munitions has resulted in numerous potentially contaminated sites. All hazardous waste has to turn in to the Environmental Office. Currently, a pharmacy system has been in-place for the inventory for all hazardous material.

3.8 Socioeconomic

Currently, the Arsenal employs a total of about 2,500 personnel, of which 150 are military. The military segment, with their families, form the resident population of about 550 people. The rest of the employees commute from 19 New Jersey counties and areas of Pennsylvania and New York, About 45 % of the civilian workforce reside in Morris County and another 22% reside in the adjacent Sussex County.

The Arsenal has its own chapel, fire house, PX and Commissary, credit union, museum, food services, and nursery school. The Arsenal has a number of recreational facilities, including a gymnasium, bowling alleys, movie theater, golf course, snack bar, swimming pools and recently the Water-Park has just open in April 2000. Two large lakes, Picatinny Lake and Lake Denmark, provide water-based recreation including fishing and boating. Lake Denmark and the surrounding area are used by approximately 200 members of the Picatinny Rod and Gun Club for fishing and hunting throughout the year. Also, authorized personnel can use the picnic and camping areas located near Lake Denmark.

The Arsenal has its own water treatment plant which uses groundwater from wells onsite. It also has its own wastewater treatment plant. The wastewater plant treats an average of 0.3 mgd to secondary treatment level, discharging effluent to Green Pond Brook.

The installation includes 571 acres of building and grounds, 1,497 acres of managed areas, and 308 acres of lakes and reservoirs, with the rest as forest and/or wetlands. (Stone and Webster, 1989). The ATF facility and Building 67 is located in downtown/industrial area Picatinny valley near the truck gate. The nearest residence to the facility is about 1,500 feet, separated by open ground and wood lot (General Site Map, Picatinny Arsenal).

3.9 Transportation/Utilities

3.9.1 Highways

There are five major roads that are extensively traveled within the Arsenal: Parker Road, Farley avenue, Main road, Phipps Road, Berkshire Hill Road. These serve the five main gates providing entrance/exit for commuter traffic. External commuter traffic is over State Road (SR) 15, SR 287, Interstate (I) 80 (East and West). SR 15 skirts the southern end of the Arsenal, I 80 is located about one mile southeast, and U. S. route 46 is about two and one-half miles southeast of the main entrance. I-80 and SR-15 are the routes predominantly used by employees at the Arsenal.

3.9.2 Railroads

Inactive rail lines of the Wharton and Northern Railroad, a branch of the Central Railroads of New Jersey, pass through the installation. New Jersey Transit runs a line through Morris Plains about one and one-half miles from the Arsenal.

3.9.3 Utilities

Currently, the Arsenal has just completely upgraded the utilities distribution lines including the adding and upgrading the distribution stations. The power house (building 506 near Lake Picatinny supplies most of the electric power to Picatinny. In addition, the Public Service Electric and Gas Company of New Jersey runs a 230 KV transmission line across (above) Lake Denmark for backup of Picatinny electric power.

4.0 IMPACT OF PROPOSED ACTION:

No environmental impact is anticipated from the sand/soil washing operation at Building 3150.

4.1 Human Health

The soil washing process at Building 3150 will not pose any human health risk since the entire soil washing process is conducted in a close loop environment. Any hazardous waste generated during the operations will be followed in accordance with Picatinny Arsenal Standard Operation Procedures (ATF-SOPs) and all NJ DEP and Federal regulations. A safety site plan will be prepared.

4.2 Wildlife

There will be no impact to the habitat of the Indiana Bat since the action does not involve stream corridors nor tree removal. There will be no construction for the soil washing process. The soil washing equipment will be self-contained and mounted to a portable skid and will be temporality staged in and around Building 3150. The processing will have no impact upon any local wildlife since it will be staged in Building 3150 and possibly the parking lot adjacent to Building 3150.

4.3 Vegetation

There will be insignificant effect on vegetation since the area around Building 3150 consists mostly of crushed stone driveways and paved roads.

4.4 Transportation

The traffic disturbance will be minimal due to the small scale of the demonstration. The ATF soil is stored in 12 lined and covered roll-off containers which will be transported to Building 3150 over the course of the demonstration.

4.5 Atmospheric Effects

There will be minimal effects on the atmosphere since the entire operation will be performed in a close loop environment.

4.6 Noise

There are no noise effects expected beyond the normal operations performed at Building 3150.

4.7 Groundwater

Effects on groundwater will be insignificant since the entire process will be contained. In addition, all the soil storage dumpsters are double lined.

4.8 Soil

There will be positive environmental impacts as a result of this soil washing project. Instead of disposing of 176 tons of contaminated soil in a hazardous waste landfill, this demonstration will separate the contaminants from the soil, leaving two recyclable materials: 1) clean soil, which may be reused in the ATF or elsewhere at Picatinny and 2) recovered heavy metals, which may be recycled, most likely to a battery manufacturer for commercial reuse.

NOTICE OF AVAILABILITY
AND
FINDING OF NO SIGNIFICANT IMPACT
PICATINNY ARSENAL NEW JERSEY
The U.S. Army Bank Quiomolify and Armaments
Command, Armament Research, Development and
Engineering Center (TACOM-ARDEC), Picatinny
Arsenal, New Jersey, has prepared an Environmental
Assessment (EA) for TACOM-ARDEC) Picatinny Arsenal,
The proposed action is to demonstrate the wet density separation of lead from confaminated our range
berm soil using an innovative small acase soil washing apparetus.
The EA has resulted in a finding of no significant
impact (FNSI) based on Mith conclusion, that these
activities pose no significant intest to the environmental Picatinny Arsenal.
Copies of the EA and FNSI may The reviewed att
the Rockawey, Township Public Library, All Miler Road, Morristown, N.J. (1796), at the "ACOM-ARDEC Science
and Technical information Library, building 59, and
at the TACOM-ARDEC Public Affairs Office, building 1.
The deadline for submission of writien comments should be sain to Commander, TACOMARDEC, Affanion: AMSTA-AR-WEA, POC: Mr. John
Cestaloni, Building 1, Picatinnay Arsenal, N. J.
07805-5000.
For further information, please contact the Picatinny Arsenal Public Affairs Office, (973) 724-6364,
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